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09/922,923	08/07/2001	Jung-Ho Kim	Q65282	8991

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EXAMINER	
WANG, TED M	
ART UNIT	PAPER NUMBER
2634	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/922,923	KIM, JUNG-HO	
	Examiner	Art Unit	
	Ted M. Wang	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 February 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed on 02/01/2005, have been fully considered but they are not persuasive. The Examiner has thoroughly reviewed Applicants' arguments but firmly believes that the cited reference to reasonably and properly meet the claimed limitations.

Independent Claims 1 and 5

(1) *Applicants' argument* – "Nowhere, however, does Benayoun teach or suggest that the timer controller determines the clock value of the timer whenever the modem attempts a connection to the external modem. " as recited

Examiner's response -- In response to applicant's argument as described in the above paragraph, The Benayoun patent teaches

a) The adapter is implemented in any in any asynchronous communication link and its function of automatically selecting the configuration parameters can be implemented inside any asynchronous receiver such as a Data Terminal Equipment (DTE) or a Data communication Equipment (DCE), a modem for example. It is to be noted that in an asynchronous transmission, as no clock is provided, the difference between a DTE and a DCE does no longer exist (column 2 lines 30-44). Therefore, the Fig.1 element 50 can be implemented in a modem (DCE Peripheral) (110) and Fig.1 element 10 DTE can be replaced as an external modem (DCE).

pin C0-C3. Its pins IN1 and IN2 determine if the configuration has one or two stop bits corresponding to the speed of the communication. Afterwards, the microcontroller resets the system and programs its receive and transmit internal UART to the speed rate of the clock generator, the data bit length, the parity, and the number of stop bits. The communication is then established between the modem (DCE) (10) and the external modem (peripheral DCE) (110) connected to the UART of the microcontroller via its DMA link. Thus, for the explanation addressed in the above paragraph, the rejection under 35 U.S.C. 103(a) with Benayouns' reference is adequate.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benayoun et al. (US 6,016,309) in view of Wu (US 6,219,378).

- With regard claim 1, Benayoun et al. discloses an apparatus installed between two devices for relaying communication comprising:

b) The cited reference, column 10 lines 52-67, is an example and part of the operation of Fig.1 adapter. The detailed explanation is described in column 2 line 30 – column 3 line 31 as cited in the previous office action, page 3, item 4, claim 1 rejection. Benayoun teaches an adapter implemented inside a modem (DCE Peripheral) (110) to automatically adapt the transmission speed, the data length and the stop bits which characterize an asynchronous transmission (column 1 lines 55-58). A DCE, or a modem (10) is connected by a receive and transmit pins referred as RXD and TXD to the adapter through a connector (120) which may be a RS 232 connector. Lead RXD is also connected to a control circuit (170) and a parity checker (180). A clock generator (160) is provided to the adapter and is set at the lowest speed of 110 bps at power on reset. At the beginning of the transmission, the bits are serially transmitted on lead RXD. The control circuit waits for the start bit signal which has a low level and as soon as it is detected, it sends a synchronous signal SYNC to a timer (220) to synchronize the beginning of the bit counting. This timer is also clocked at the lowest rate of 110 bps. The control circuit (170) compares the parity input signal to the incoming signal RXD base on the bit state of B8, B9, and B10 input from the timer (220) and increases counters (230, 240). These operations are repeated until one of both counters (230,240) reaches a predetermined value. When the predetermined value is reached, its overflow pin 0V rises and the microcontroller is made aware of this information by input pin IN1 or IN2. Then, the microcontroller reads the speed of the asynchronous communication through its

a timer for determining data transmission speed from the external modem (Fig.1 elements 160, 220, 230, and 240, column 2 line 30 – column 3 line 31, and column 10 lines 47-67); and

a timer controller (Fig.1 elements 100, 160, 170, and 180) for performing an initial communication process for determining data transmission speed of a line connecting the device and the external device (Fig.1 elements 100, 160, 170, and 180, column 2 line 30 – column 3 line 31, and column 10 lines 47-67), the timer controller determining a clock value for the timer based on the data transmission speed of the line determined by the communication process (column 10 lines 47-67).

Benayoun et al. discloses all of the subject matter as described above except for specifically teaching that the apparatus is a modem and the initial communication process between two devices is a training process as claimed.

However, Wu teaches a digital subscriber line modem, including an ADSL modem (column 2 lines 12-51 and Fig.8), initialization operation to communicate between the central office where central office contains a modem rack with plurality of ADSL modems (Fig.1 element 20 and column 4 lines 61-67) and subscribers' modem (Fig.1 element 10 and column 4 lines 25-67) with a training process (Fig.8 and 9 elements 62C and 62R, column 11 lines 58-67) so that the available data communication rates and accuracy are improved (column 3 lines 4-8).

The method of initializing and training the transceivers in modems between central office and subscriber in an MDSL system, provides important benefits in achieving the goals of low-cost, high-performance, modem communication over twisted pair wire facilities TWP (column 18 lines 45-60). In addition, the ADSL modem, the most publicized technology currently– asymmetric Digital Subscriber line modem, will improve the data transmission rate in both upstream and downstream over a single copper twisted pair (column 2 lines 12-31).

Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the apparatus as taught by Wu in which, implementing digital subscriber line modems (including ADSL modem) to communicate between the central office and subscribers' modems with a training process, to integrate Benayoun's device so as to maximize the available data communication rates and accuracy.

- With regard claim 2, the limitation that the timer controller determines the clock value of the timer whenever the modem attempts a connection to the external modem can further be taught by Benayoun et al. in column 10 lines 52-67.
- With regard claim 3, the limitation that the line is a telephone line and the modem is Asymmetrical Digital Subscriber Line ("ADSL") is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 4, the limitation that the external modem is installed at a main station that performs Asymmetrical Digital Subscriber Line ("ADSL") service to

- a plurality of subscribers' terminals can further be taught in claim 1. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 5, which is a method claim related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 6, which is a method claim related to claim 2, all limitation is contained in claim 2. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 7, which is a method claim related to claim 3, all limitation is contained in claim 3. The explanation of all the limitation is already addressed in the above paragraph.

 With regard claim 8, which is a method claim related to claim 8, all limitation is contained in claim 8. The explanation of all the limitation is already addressed in the above paragraph.

Conclusion

4. Reference(s) US 6,728,309 and US 5,396,486 are cited because they are put pertinent to the Data communication with Modem . However, none of references teach detailed connection as recited in claim.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

6. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M. Wang whose telephone number is 571-272-3053. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ted M Wang
Examiner
Art Unit 2634

Ted M. Wang

SHUWANG LIU
PRIMARY EXAMINER